Friday, March 25, 2016 **[F702]**
EXOBIOLOGY: ORGANIC DELIVERY, HABITABLE ENVIRONMENTS, ANALOGS, AND TOOLS
8:30 a.m. Waterway Ballroom 4

Chairs: **Aaron Burton**
Haley Sapers

8:30 a.m. Ertem G. * Cooper G.
Effect of Shock Impacts on the Survivability of RNA and Protein Monomers **[#2653]**
Effect of shock pressures up to 40 GPa mimicking the asteroid impacts on the survivability of biomolecules mixed with martian analog minerals.

8:45 a.m. Chan Q. H. S. * Zolensky M. E. Burton A. S. Locke D. R.
Amino Acids in the Asteroidal Water-Bearing Salt Crystals Hosted in the Zag Meteorite **[#1402]**
The amino acid abundances and distributions of the Zag meteorite and its aqueous fluid inclusion-bearing halite crystals measured by UPLC-FD/ToF-MS.

9:00 a.m. Simkus D. N. S. * Hilts R. W. Herd C. D. K. Aponte J. C. Elsila J. E.
First Report of Aldehydes and Ketones in the Tagish Lake Meteorite: Optimized Methodology and Preliminary Results **[#2370]**
Using an optimized PFBHA derivatization method, carbonyl precursors to previously detected amino acids were identified in the Tagish Lake meteorite.

9:15 a.m. Cooper G. * Rios A. C.
Chiral Analysis of Rare and Common Sugar Derivatives in Carbonaceous Meteorites **[#2612]**
Chiral analyses of carbonaceous chondrites reveal that certain sugar acids, rare and common, contain D-enantiomer excesses that increase with carbon number.

9:30 a.m. Aponte J. C. * Dworkin J. P. Elsila J. E.
Molecular Distribution of Aliphatic Amines in Antarctic CR2 and CM2 Carbonaceous Chondrites **[#1039]**
In this abstract we describe our findings on the molecular abundances of aliphatic amines in Antarctic CR2 and CM2 carbonaceous chondrites.

9:45 a.m. Kaplan H. H. * Milliken R. E. Luo G. M.
Quantifying Organic Content with Reflectance Spectroscopy: Applications to Carbonaceous Chondrites and Planetary Surfaces **[#1482]**
Sedimentary rocks and kerogen are measured with reflectance spectroscopy and spectral modeling is used to predict organic abundances.

10:00 a.m. Potter-McIntyre S. L. * Williams J. Lander C. M. O'Connell L.
Diagenetic Alteration of Biosignatures Preserved in Spring Carbonates: Implications for Mars **[#1356]**
Diagenetic alteration of biosignatures are characterized at a unique field site with modern microbial mats and a succession of older carbonate deposits.

10:15 a.m. Harrold Z. R. * Hausrath E. M. Bartlett C. L. Garcia A. H. Tschauner O. et al.
Bioavailability of Mineral-Bound Iron to a Snow Algae Community and Implications for Life in Extreme Environments **[#2720]**
We investigate the bioavailability of mineral-bound iron to a snow algae-bacteria community and its implications for life on icy worlds.

10:30 a.m. Sapers H. M. * Ota T. Nakamura E. Osinski G. R. Banerjee N. R. et al.
Major, Minor, and Trace Elemental Variability of Ries Impact Glass: Implications for Habitability **[#2347]**
Sub-micron major, minor, and trace elemental variability in glass clasts from Ries highlight differences between tubule- crystallite-rich regions.

10:45 a.m. Pavlov A. A. * Glavin D. Dworkin J. McLain H. Eigenbrode J.
Rapid Degradation of the Amino Acids in Martian Subsurface Rocks and Regolith Due to Exposure to Cosmic Rays **[#2577]**
Destruction rates of the organic biomolecules in surface martian rocks due to exposure to cosmic rays are much faster than were thought previously.

11:00 a.m. Teodoro L. F. A. * Davila A. F. McKay C. P. Dartnell L. R. Elphic R. C.
Ionizing Radiation on the Surface of Europa: Implications for the Search for Evidence of Life **[#2601]**
We recreated the most favorable radiation environment on Europa, and evaluated its possible effects on organic biomarkers within the shallow ice-shell.

11:15 a.m. Lyons J. R. *
Isotope Fractionation Due to Self-Shielding for Idealized Molecular Spectra **[#2792]**
I present results of analytical models for isotope fractionation by self-shielding for idealized spectra. Results are applied to S-MIF on early Earth.

11:30 a.m. Johnson T. V. * Mousis O. Lunine J. I. Madhusudhan N.
Exoplanet Habitability: Small Variations in Stellar C/O Can Have Big Effects **[#2266]**
Exoplanet systems with only mildly super-solar C/O will be poor in water ice even beyond the snow line, affecting habitability anywhere in the system.